CLAIMS

1. A medical device comprising a solid and/or non-expandable core member having an outer surface layer, which is formed by electrospun nanofibers.

2. A medical device according to claim 1, wherein the medical device is selected from the group consisting of:
- a guide wire for guiding medical devices through tubular structures of a living being; and
- an embolization device
- a guide shaft for a micro catheter.

3. A medical device according to claim 1 or 2, wherein the outer surface layer incorporates a pharmaceutically active substance.

4. A medical device according to claim 3, wherein the pharmaceutically active substance comprises nitric oxide, and wherein the outer surface layer further comprises an acidic agent.

5. A medical device according to claim 3, wherein the pharmaceutically active substance comprises a chemotherapeutical agent.

6. A medical device according to any of claims 3-5, wherein the outer surface layer is essentially made from a polymer matrix, which contains molecules capable of releasing the at least one pharmaceutically active substance.

7. A medical device according to claim 6, wherein the outer surface layer is essentially made from a polymeric linear poly(ethylenimine) diazeniumdiolate.

8. A medical device according to any of claims 3-7, wherein the pharmaceutically active substance is provided in the form of biodegradable beadings distributed between the nanofibers.

9. A medical device according to any of claims 2-8, the medical device being an embolization device, which has an essentially spherical outer contour, and which is made from one or more coil elements, the outer surface layer being provided on the or each coil element.

10. A medical device according to any of claims 2-8, the medical device being an embolization device, wherein the core member is a particle, onto which the outer surface layer is formed.

11. A medical device according to any of claims 2-8, the medical device being an embolization device, the core member of which is made from a thrombogenic, biodegradable polymer.

12. A medical device according to claim 11, wherein the biodegradable polymer comprises collagen.

13. A medical device according to claim 11 or 12, wherein the biodegradable polymer comprises polylactid.

14. A medical device according to any of claims 11-13, wherein the biodegradable polymer comprises urethane.

15. A method of producing a medical device comprising a solid and/or non-expandable core member having an outer surface layer, the method comprising forming the outer surface layer by electrospinning of nanofibers.

16. A method according to claim 15, wherein the outer surface layer comprises a pharmaceutically active substance.

17. A method according to claim 16, wherein the pharmaceutically active substance comprises nitric oxide.

18. A method according to claim 17, wherein the outer surface layer further comprises an acidic agent.

19. A method according to claim 16, wherein the pharmaceutically active substance comprises a chemotherapeutical agent.

20. A method according to any of claims 15-19, wherein the outer surface layer is essentially made from a polymer matrix, which contains molecules capable of releasing the at least one pharmaceutically active substance.

21. A method according to claim 20, wherein the outer surface layer is essentially made from a polymeric linear poly(ethylenimine) diazeniumdiolate.

22. A method according to any of claims 15-21, wherein nitric oxide is applied to outer surface layer by exposing the outer surface layer to nitric oxide in a chamber containing pressurized nitric oxide.

23. A method according to claim 22, wherein the device is exposed to nitric oxide at a pressure of 1-5 bar in said chamber.

24. A method according to any of claims 15-23, wherein the step of electrospinning nanofibers comprises feeding a fiber-forming material through a dispensing electrode arranged at a distance from the core element, whereby a plurality of strands of the fiber-

forming material emerge out of said dispensing electrode, the method comprising controlling the properties of the outer surface layer by controlling the fluidity of said strands when they reach the supporting element.

25. A method according to claim 24, wherein the fluidity of the strands when they reach the core element is controlled by controlling the distance between dispensing electrode and the core element.

26. A method according to any of claims 15-25, wherein the core member is provided on a sheet-like supporting member, and wherein the outer surface layer is formed by electrospinning of nanofibers while the core member is supported by said supporting member.

27. A method according to any of claims 15-26, wherein the outer surface layer is provided to the core member in a fluid bed.

28. A medical device for insertion into the vascular system of a living being, at least a portion of the medical device being formed by electrospun nanofibers.